

Demo Plan

1. Under Linux environment, run “make” command to get the executable “hydra”.
2. First let’s run the program with command-line argument “-testing”. This testing aims to make sure the rules are working correctly, so we will go through an example game thoroughly. However, it’s too time-consuming to go through an actual game, so we will make use of enhancement 5, which makes the game use smaller decks (8 cards per deck, so it’s 8 initial cards for each player). The cards should have fixed value and suit, but since we are in testing mode, we can choose whatever we want.

Now a message containing the basic information on how to choose enhancements and how to quit the game/program. Press Enter. You are now asked to choose whether you want enhancements for this game. We want to demo with the 5th enhancement, so type in “y” or “Y” and then press enter. Type in “5” and press Enter. Type in “0” and press Enter to finish selecting enhancements. Then the game begins.

- a) Now you should see a message saying “Player 1 is creating the first head! \n\n Card value?”. Enter “5” as the value. Now it asks “Suit?”. Enter “S”. Then the first head is created with card “5S”.
- b) It’s Player 2’s turn now. Press Enter and you are asked to customize the card Player 2 is drawing. Enter “3” as the value and “H” as the suit. Then enter “1” as the move you choose. Now it says “Card 3H is added successfully to head 1!” and some other messages indicating Player 2 is ending their turn.
- c) Now it’s Player 1’s turn. Let the card be 3H and choose move number 1. Player 1’s turn will end immediately.
- d) Player 2’s turn again, this time let’s try a Joker. Enter “Joker” as card value, and you will not be asked to enter suit. Choose 1 as your move number. You are now asked to enter the joker value. Enter “5”, and you are told card 5J cannot be added to head 1. Now enter “1” again as your move, and let the joker be of value 2.
- e) Player 1’s turn. Let’s try Ace now. Let the card be AC. Move number 1. Added successfully.
- f) Player 2’s turn. Let the card be AD. Move number 1. Added successfully and the turn ends immediately.
- g) Player 1’s turn. Let the card be QH. Move number 1.
- h) Player 2’s turn. Let the card be KS. First try move number 0. Since using reserve is not allowed when there is only 1 head, you are asked to enter your move number again. This time try move number 1. Now you are told that you have to cut a head. Then let the 2 cards that are about to be used to form new heads be 10S and 4H.
- i) Player 1’s turn with 2 draws. Let the card be AH. Move number 2. Let the card be AS. Move number 2.
- j) Player 2’s turn with 2 draws. Let the card be 3S. Move number 2. Let the card be KH. Move number 0 meaning Player 2 puts the card into the reserve. After that Player 2’s turn ends, so the reserve goes back to discard pile, which you can tell by the number of cards in the discard pile.
- k) Player 1’s turn with 2 draws. Let the card be 3C. Move number 2. The turn ends immediately with no further draws.
- l) Player 2’s turn with 2 draws. Let the card be JS. Move number 0 to put the card to reserve.

Let the card be 10D. Move number 0 to swap with reserve. You can try entering “0” to swap the reserve several times and check it’s working correctly. Then move number 2 to cut a head. Let the cards be 6D and 6D.

m) Player 1’s turn. Let the card be AS. Move number 3. Then Player 1 wins.

The procedures above eliminate most bugs. At any time you can enter an invalid number of move or an invalid value or suit. Then an error message will show up and let you enter again. In my implementation, “winning by losing” is impossible because if the current card can’t be placed on any of the heads and there is no reserve, the card must be placed to reserve.

3. Now let’s check out enhancements. To make things simple, we re-run the executable with no command-line arguments (I think this is allowed, but continuing under testing mode and adding enhancements is also fine and shouldn’t make any difference except you need to input card values and suits). Type “y” or “Y” when you are asked whether you want enhancements for the next game. Then a list of all enhancements shows up.

- a) Type “1”, press Enter, type “0”, and press Enter. Now you’ve enabled “Grammar” enhancement and it’s the only enhancement that’s enabled. Now try some random valid actions and you can see that when the card value is “8” or “A”, the message will use “an” instead of “a”. (Actually this should be more straight forward in testing mode.)
- b) Type “quit” to quit the current game, and then press Enter to start another game. This time select enhancement 2 “House Rule” by pressing 2-enter-0-enter when given the enhancement list. With any number of players, at any time in your turn, you can type “cut” to manually cut a head.
- c) Quit the current game. Select enhancement 3 “Customized Name”. Enter any number of players. Then you will be asked to type in each player’s name. Directly pressing Enter without entering any name is not allowed, and entering duplicate names is also not allowed (in both cases, you will be asked to enter that name again.).
- d) Quit the current game. Select enhancement 4 “Computer Players”. Continue until a message says, “Player x, it is your turn.” Now type “disconnect” and press Enter. Then you are asked to enter the name of the disconnecting player. After that, the player with the specified name will be replaced with a naïve computer player. They will simply choose the oldest head that is valid to put their card on, and if no such head exists, they enter the index of the oldest head to cut a head. After several turns, when the message “Player x, it is your turn.” Shows up, type “reconnect” and press Enter. Then type the name of the player who wants to reconnect, and the player is back again!
- e) Quit the current game. Select enhancement 5 “Small Decks”. This has already been demo-ed during in testing mode. We can try again in non-testing mode and check the cards are exactly those specified, and the rules work correctly.
- f) We can also try some combinations of enhancements, but specifying them in this demo plan will make things messy. Therefore, I am not going to list them here, but you can totally try any combination you want. Simply type the number of enhancement and press Enter to enable the corresponding enhancement. Type “0” and press Enter to finish selecting enhancements.

4. Now we can try a new game without any enhancement, but with a large deck, it’s hard to come up with an example. You are free to test it, but the main rules have already been tested above.